

ABSTRACT

A bubble trap for use in a projection system that reduces distortions caused by bubbles that occur in the coupler supporting a projection lens in alignment with a projection optical signal generation device (e.g., a Cathode Ray Tube). The coupler defines a cooling chamber between said projection lens and said projection signal generating device and is filled with liquid in order to transport the optical signal between the projection optical signal generation device and projection lens while minimizing contrast distortion. The bubble trap is an optical blocking system that is responsive to the angle of the coupler in the projection product and prevents the light from the optical signal path from striking the bubbles in the liquid in the coupler. When the frame and connected bubble trap are tilted inside the projection product, the bubbles float to a corner in the bubble trap away from the fill hole and away from the possible direction of the stray light rays that can enter from the fill hole between the coupler frame and the bubble chamber due to the bubble trap's dimensions and flat shelf area surrounding the fill hole. The coupler with bubble trap is used for example in projection televisions.